

CYCLONE SEPARATOR WITH VACILLATING DEBRIS INHIBITOR

ABSTRACT OF THE DISCLOSURE

The invention relates to a cyclonic dirt separator comprising a dirt-collection assembly including a dirt tank having an inlet aperture and an outlet aperture, a cyclonic separator, at least one filter element, and a suction source fluidly connected with the dirt collection assembly. In one embodiment, the cyclonic dirt separator includes a separator plate cooperating with the housing to form a toroidal region of the dirt tank for aiding in the separation of dirt from a suction airstream developed by the suction source. The separator plate has an outer diameter smaller than the inner diameter of the dirt tank, creating a gap between the outer edge of the separator plate and the inner wall of the dirt tank. A further embodiment includes fins projecting from a sidewall of the dirt tank, and fingers projecting from a bottom wall of the dirt tank, to reduce re-entrainment of dirt particles.